Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Inquiry Concerning the Deployment of	)	
Advanced Telecommunications Capability	)	CC Docket No. 98-146
to All Americans in a Reasonable and Timely	)	
Fashion, and Possible Steps to Accelerate Such	)	
Deployment Pursuant to Section 706 of the	)	
Telecommunications Act of 1996	)	

COMMENTS OF MEDIA FUSION CORPORATION

Media Fusion Corporation ("Media Fusion"), by its attorneys and pursuant to the Federal Communications Commission's ("FCC's" or "Commission's") Notice of Inquiry in the above-captioned docket, hereby submits these Comments for consideration regarding the deployment of advanced telecommunications capability in a reasonable and timely fashion to all Americans.[1/]

INTRODUCTION AND SUMMARY

Media Fusion, incorporated in 1998, is a company dedicated to the development, installation and management of a low-cost infrastructure to provide reliable voice, data and video communications over the electrical power grid. Since beginning its technology development in 1995, Media Fusion's core mission has been the promotion of its advanced technology, which, as the FCC has properly recognized, can "improve the nation's productivity and educational, social and health care services . . . [and] create a more productive, knowledgeable, and cohesive

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1/ See In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, CC Docket No. 98-146, Notice of Inquiry, FCC 98-187 (rel. Aug. 7, 1998) ("NOI").

nation."[2/] Given this mission, Media Fusion commends the forward-looking and far-reaching scope of the FCC's inquiry.

Using its unique, proprietary technology, Media Fusion is poised to facilitate the use of the most extensive global network – the electrical power grid – to surmount the "last mile" problem, which the Commission has identified as the primary obstacle to the delivery of "advanced telecommunications capabilities" to consumers.[3/] Moreover, based upon current estimates, Media Fusion expects that its technology can be deployed efficiently and economically world-wide, ensuring that it will be affordable to all, especially those who will particularly benefit from access to advanced, high-speed services, including schools, libraries, health care institutions, low income consumers and developing countries.

Significantly, by utilizing the facilities of electric utilities, powerline communications can substantially further the clear intent of Congress and the FCC that advanced services be deployed to all Americans, whether they live in rural or populous areas.[4/] Indeed, every home or office in the world that has an electrical outlet could potentially use this capability for high-speed services. As such, this technology holds tremendous promise not only in fulfilling the universal service goals articulated by the FCC and Congress,[5/] but in potentially expanding access to communications services to people throughout the developing world.[6/]

2/ Id. at ¶ 1.

3/ Id. at ¶¶ 3, 48.

4/ Id. at ¶ 65; Section 706 of the Telecommunications Act of 1996, Pub. L. 104-104, Title VII, § 706, Feb. 8, 1996, 110 Stat. 153, reproduced in the notes under 47 U.S.C. § 157 ("Section 706"); see also H.R. Conf. Rep. 104-458 at 210 (1996).

5/ See 47 U.S.C. § 254(b) (articulating the principles for the preservation and advancement of universal service); In the Matter of Federal-State Joint Board on Universal Service, CC Docket No. 96-45, Report and Order 12 FCC Rcd 8776, 8799-06 ¶¶ 43-55 (1996).

6/ Media Fusion is not the only company involved in developing technology that will enable data to be transmitted over existing electric power lines. For example, NOR.WEB, a joint venture between Northern Telecom

Presently, Media Fusion has completed the design and laboratory testing stages of its proprietary network system and is well positioned to finalize the construction, installation, and testing of its first system by the end of 1999. To promote these benefits and to enhance further competition in the development and deployment of advanced services, the FCC should make clear that such technologies are wholly consistent with the pro-competitive framework of the 1996 Act. Specifically, the FCC should find that this technological development affirmatively serves the public interest, consistent with Section 706, as well as Section 7 of the Communications Act.[7/] The FCC should also ensure that services using this new technology are not subject to unnecessary regulation, as an over-regulatory approach could stifle their successful deployment to the mass market.

POWERLINE COMMUNICATIONS CAN FULFILL THE GOALS OF SECTION 706 AND SERVE THE PUBLIC INTEREST BY OFFERING UBIQUITOUS ACCESS TO HIGH-SPEED TRANSMISSION CAPABILITIES

A. Media Fusion's Technology Offers the Capability of Deploying Affordable, Efficient High-Speed Advanced Services Over the Ubiquitous Electric Utility Grid

In the NOI, the Commission states that its inquiry "transcends all boundaries among today's industries and segments and classes of services," and notes that Section 706 defines

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and United Utilities, is also working to provide end-to-end information services from local electricity substations to end user premises. See "Digital Powerline: The Story So Far," available at <www.nortel.com/broadband/powerline/story.htm>.

7/ Section 7, 47 U.S.C. Sec. 157, provides:

New Technologies and Services.

(a) It shall be the policy of the United States to encourage the provision of new technologies and services to the public. Any person or party (other than the Commission) who opposes a new technology or service proposed to be permitted under this Act shall have the burden to demonstrate that such proposal is inconsistent with the public interest.

(b) The Commission shall determine whether any new technology or service proposed in a petition or application is in the public interest within one year after such petition or application is filed. If the Commission initiates its own proceeding for a new technology or service, such proceeding shall be completed within 12 months after it is initiated.

"advanced telecommunications capability" without regard to any particular transmission media or technology.[8/] Media Fusion contends that today's electric power grid provides a perfect communications platform to facilitate the central goal of Section 706 of the 1996 Act – the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans.[9/]

Today, the electric power grid is the most extensive network in the world, far surpassing the deployment of the wireline telephone network. In addition, the electric grid in most areas of the world is more modern and better maintained than any other wired communications network.[10/] Most importantly, the electrical network, with its high transmission power lines, offers several key advantages over other wired transmission media with respect to the provision of high-speed advanced services.

First, in contrast to other networks, high transmission power lines offer long distance signal carriage, carrying signals up to 2000 miles with no signal regeneration required.[11/] Second, fueled by magnetic fields created by alternating current, signals are pulled across wires on the electric grid at near light speed, with any input on the grid instantly known, and every part of the electric grid (including every plug and outlet) "hot" with respect to every other.[12/] Third, the electric infrastructure, with its analog electric waves, possesses enormous potential

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8/ NOI at ¶¶ 6, 8.

9/ See Section 706(a).

10/ See "The Living Grid: Evolving to Meet the Power Needs of America," Edison Electric Institute, March 1998 at 1, available at <http://www.eei.org/Industry/structure/power5.htm>.

11/ In contrast, it is generally accepted that traditional copper wires can carry signals up to roughly 5 miles, coaxial cable up to about 15 miles, and fiber up to approximately 20 miles.

12/ In contrast to telephony's direct current pulse technologies, the nature of alternating current is such that a "multicast" over power lines would penetrate the entire grid constantly. 110 volts at any functioning outlet are the same 110 volts at any other functioning outlet.

information carrying capacity, with high resolution and efficiency, in contrast to Asynchronous Transfer Mode ("ATM") and other digital, packet-based technologies which naturally result in efficiency losses. Finally, the electrical grid has no topolgy limitations, avoiding the burdens of conventional telephone technology, including routers, bridges, gateways, and outdated central office software and switches.[13/]

To date, the use of powerlines for communications applications has been constrained by certain technological limitations, including especially line noise, electrical load imbalances, the existence of transformers that disintegrate communications signals and the difficulties of controlling those signals that do survive. Media Fusion's Advanced Sub-Carrier Modulation™ ("ASCM™") technology, however, overcomes these key obstacles by inscribing data within the natural low frequency bandwidth of the electric wave to transmit information and by using signal processing equipment that identifies all data and frequencies riding within the wave and converting them into understandable form in real time to receive information. As such, by using Media Fusion's integrated system of hardware and software components, including larger components to be installed at a central office and smaller adapters to be employed by end-user consumers, data can be successfully insulated from natural, chaotic or commercial line noise, enabling the high-speed transmission of massive quantities of data. The diagram in Appendix A presents a brief overview of the Media Fusion network.

13/ As the Commission has recognized, today's telephone network is not optimized for transmission of data, but rather was designed to meet the needs of voice communications. See NOI at ¶ 3.

B. Powerline Communications Should be Encouraged as Serving the Goals of Section 706 by Fostering Universal Availability of Advanced Capabilities in a Reasonable and Timely Manner

Recognizing the potential that electric networks hold for the provision of advanced communications services, the NOI seeks comment on the ways in which utilities might offer services and the steps that may be necessary to promote the competitive entry of electric utilities.[14/] Media Fusion believes that in answering these questions, the FCC should recognize explicitly the substantial public interest benefits that powerline communications can have for consumers.

First, as noted above, the electrical grid has near ubiquitous coverage, facilitating the deployment of advanced services to all consumers, including those who live in rural areas, and to schools, classrooms, libraries and health care facilities.[15/] Such widespread deployment directly advances the universal service goals of Sections 706 and 254 of the 1996 Act.[16/] Second, in contrast to the high deployment costs associated with other network facilities, including cable television and telephony,[17/] Media Fusion expects that its technology will be economical, with an

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14/ Id. at ¶ 48.

15/ Moreover, in contrast to other infrastructures, powerline communications will be compatible worldwide, as the magnetic fields exist regardless of whether the system is 60 Hz (e.g., U.S.) or 50 Hz (e.g., Russia).

16/ 47 U.S.C. § 254. See NOI at ¶ 72.

17/ See, e.g., In the Matter of Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming, CS Docket No. 97-141, Fourth Annual Report, 13 FCC Rcd 1034, 1056 ¶ 31 (1997) (indicating that MediaOne spent approximately $300 per subscriber since 1994 on deploying hybrid fiber-coaxial ("HFC") networks in combination with digital compression technology; that Time Warner plans to invest $4 billion in capital costs in connection with the upgrade of its cable plant; that Jones Intercable spent approximately $36 million in 1997 on constructing a new HFC network in parts of the Washington, D.C. metropolitan region). Similar to cable companies, the Regional Bell Operating Companies claim to have spent roughly $18 billion in capital improvements in 1996, and are currently spending "hundreds of millions a year" to accommodate the growing use of data services. See Petition of Bell Atlantic Corporation for Relief from Barriers to Deployment of Advanced Telecommunications Services, CC Docket No. 98-11, Petition of Bell Atlantic (filed January 16, 1998) ("Bell Atlantic 706 Petition") at Attachment 2, p. 44, citing 1996 Annual Reports of Bell Atlantic, SBC, Pacific Telesis, NYNEX, BellSouth, U S WEST and Ameritech.

average hardware cost per-consumer in the range of $55 per-house, with no installation costs.[18/] Moreover, the topology of the electric system directly addresses the issue of the "last hundred feet,"[19/] and is susceptible to either regional or national deployment.[20/] In addition, the widespread availability of powerline communications holds promise as an economic means to serve our nation's elementary and secondary schools and classrooms, as particularly required in Section 706, by reducing transmission and other costs (including wiring and equipment costs).

Media Fusion currently believes that it is well positioned to finalize the construction, installation and testing of its first system by the end of 1999. While Media Fusion has been able to develop its technology to date, however, there is a concern that regulatory uncertainty could undermine the ability of electric utilities and others to offer powerline communications generally, including by sending mixed signals to investors as to the feasibility of such deployment.

In this vein, the FCC and the states should expressly acknowledge that new technologies such as Media Fusion's are in the public interest and should be encouraged.[21/] Regulators must

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18/ This compares with an average per-modem cost of up to $300 for Digital Subscriber Line ("DSL") and cable modem-based systems, both of which require professional installation. See, e.g., "BellSouth FastAccess Cost," available at <http://www.bellsouth.net/external/adsl/cost.html> (indicating that a $199.95 equipment charge for the FastAccess Modem and related ADSL equipment, as well as a $99.95 installation and activation charge will be assessed on all customers); "@Home Price Comparison," available at <http://www.home.net/home/pricing.html> (indicating that a one time installation fee of $99 to $175, in addition to monthly service charges, will be incurred for cable modem service).

19/ NOI at ¶ 53.

20/ Id. at ¶ 58.

21/ The Public Utility Holding Company Act of 1935, as amended by Section 103 of the Telecommunications Act of 1996, permits registered public utility holding companies to enter the telecommunications industry, without prior Securities and Exchange Commission approval, by acquiring or maintaining an interest in an "Eligible Telecommunications Carrier" or "ETC." See 15 U.S.C. § 79. An ETC is "any person determined by the [FCC] to be engaged directly or indirectly . . . in the business of providing (A) telecommunications services; (B) information services; (C) other services or products subject to the jurisdiction of the Commission; or (D) products or services that are related or incidental to the provision of a product or service described in (A), (B) or (C)." Id.

also be careful not to saddle new technologies with the regulatory baggage of past regimes.[22/] As the FCC notes, there are several entrenched "regulatory models" currently being applied to different industries, even as discrete industries and services begin to converge.[23/] As new technologies emerge, it essential that the Commission refrain from requiring a particular regulatory classification so that technology and economics, rather than regulation, can guide the deployment of advanced services. Finally, the FCC and the states must be mindful of the incentives of incumbent providers and be prepared to act in the event they impede the competitive provision of advanced services.

CONCLUSION

Media Fusion applauds the Commission for the far-reaching scope of its inquiry and in its willingness to look beyond today's horizon to new participants in the advanced communications services market. Electric powerline communications hold vast potential to provide these services to the public and serve the public interest. As a company dedicated to the development, installation and management of a low-cost infrastructure to provide reliable voice, data and video communications over the electrical power grid, Media Fusion welcomes the opportunity to play a leading role in the deployment of advanced data capabilities. To meet the pro-competitive goals

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22/ These comments are intended to address only those issues related to the deployment of advanced telecommunications services that arise out of the FCC's jurisdiction. Competition arising in and from the electric utility industry has been addressed separately by the Federal Energy Regulatory Commission. See, e.g., Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities, and Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, 61 Fed. Reg. 21,540 (May 10, 1996), FERC Stats. & Regs. § 31,036 (1996) (Order No. 888) (opening wholesale power sales to competition); Open Access Same-Time Information System (formerly Real-Time Information Networks) and Standards of Conduct, 61 Fed. Reg. 21,737 (May 10, 1996), FERC Stats. & Regs. § 31,037 (1996) (Order No. 889) (ensuring that transmission owners and their affiliates do not have an unfair competitive advantage in using transmission to sell power).

23/ NOI at ¶ 77.

of the 1996 Act, the Commission should expressly find that such developments are in the public interest and refrain from imposing any unnecessary regulation that could impede the development of this new technology.

Respectfully submitted,

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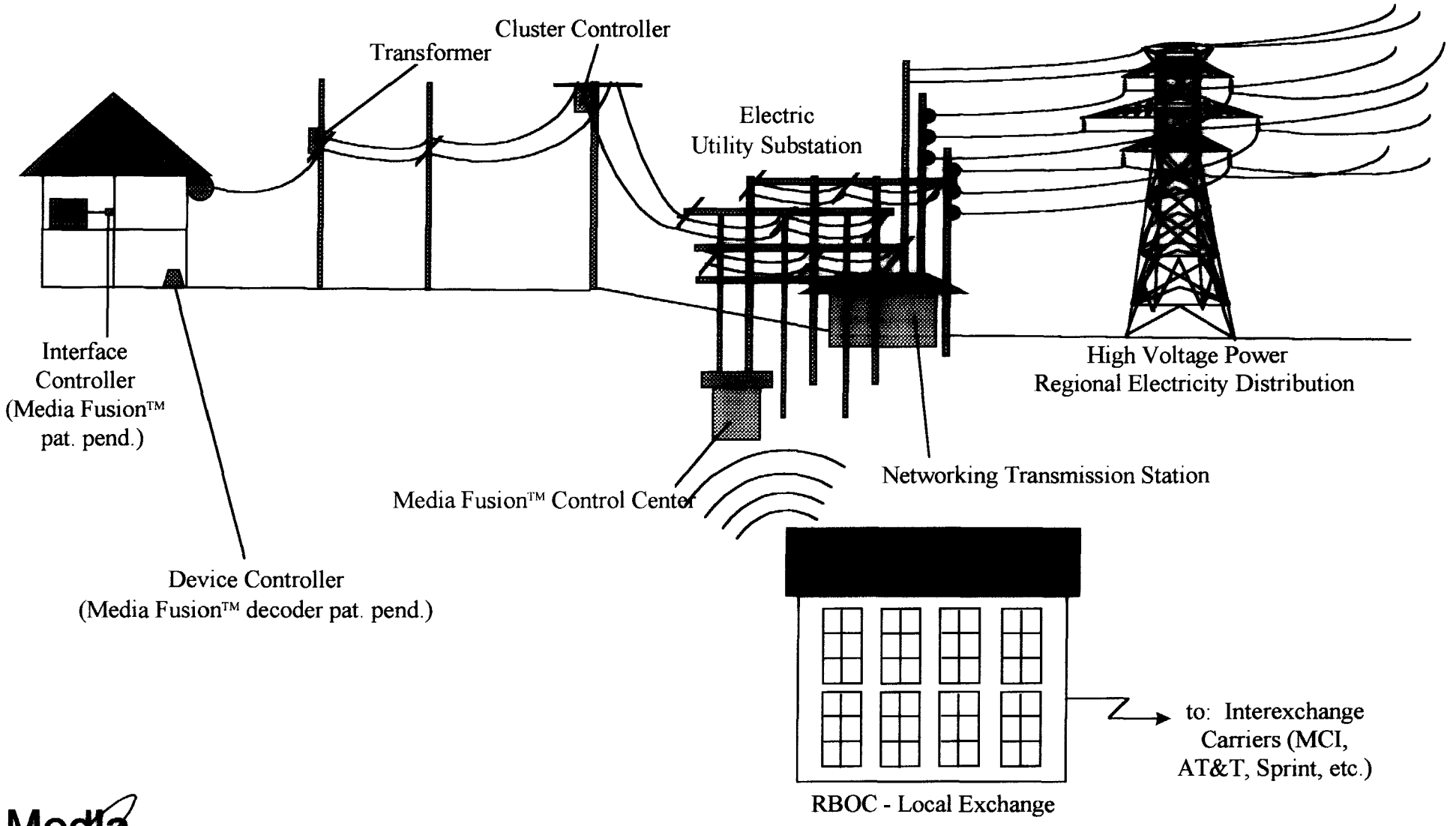
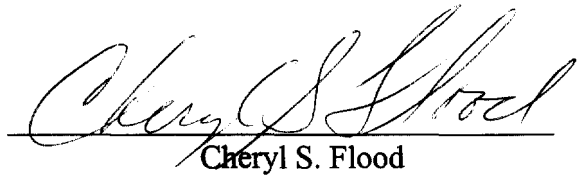
Media Fusion Network Overview



Media Fusion

CERTIFICATE OF SERVICE

I, Cheryl S. Flood, hereby certify that on this 14th day of September, 1998, I caused a copy of the foregoing "Comments of Media Fusion Corporation" to be sent by messenger (*) or by first class mail, postage prepaid to the following:



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